



Economic Impact Analysis Virginia Department of Planning and Budget

24 VAC 30-71 – Virginia Department of Transportation Minimum Standards of Entrances to State Highways June 26, 2002

The Department of Planning and Budget (DPB) has analyzed the economic impact of this proposed regulation in accordance with Section 9-6.14:7.1.G of the Administrative Process Act and Executive Order Number 25 (98). Section 9-6.14:7.1.G requires that such economic impact analyses include, but need not be limited to, the projected number of businesses or other entities to whom the regulation would apply, the identity of any localities and types of businesses or other entities particularly affected, the projected number of persons and employment positions to be affected, the projected costs to affected businesses or entities to implement or comply with the regulation, and the impact on the use and value of private property. The analysis presented below represents DPB's best estimate of these economic impacts.

Summary of the Proposed Regulation

The proposed regulations will update with the most recent versions the technical documents containing standards of entrances to state highways incorporated by reference. The only substantive change among these is allowing the use of superpave mix in the referenced materials. The proposed amendments will also improve the clarity of the regulation by adding and revising definitions, adding explanations, descriptions, and new terms to the current language in a number of places. Among these changes, the clarification that Virginia Department of Transportation (the department) has discretion to modify the details of private subdivision entrance designs may introduce some economic effects.

Estimated Economic Impact

These regulations contain minimum standards of entrances to state highways. The entrance design and construction standards are highly technical and are published in seven different documents amounting to over a thousand pages. The standards in these documents are

incorporated in the regulations by reference. The proposed changes will update the referenced material with their most recent versions.¹ In addition to updating these documents, metric sight distances along major roads at intersections with minor roads, crossovers or median openings, and commercial entrances will be provided in a table rather than referencing another technical document as currently done.² The department indicates that the most recent version of standards of entrances to state highways are currently enforced and the proposed changes will not have any impact on the implementation of these regulations. In addition, the department indicates that there are only minor differences between old and new versions of the referenced material, which are generally related to the clarity of the language. Thus, no significant economic impact is expected from implementation of the proposed changes at this time since they are already enforced in practice and most of the changes are not substantive. However, by producing consistency between the referenced standards in the regulation and the standards enforced in practice, most of the proposed regulations are expected to improve the clarity of the regulations and reduce potential confusions the highway entrance permit applicants may encounter.

The department indicates that the only substantive change between the two versions of the referenced documents is allowing the use of “superpave mix” in the most recent pavement design guidelines. It is indicated that the current Marshall mix design is restrictive and does not allow contractors the flexibility to design mixes that facilitate the use of new materials that are functional and more than, or at least as durable as the current materials used in pavements. On the other hand, the superpave mix design is a system or a menu of mix design options that contractors can use to determine the characteristics of components in a mix such as liquid asphalt, binder, or the aggregate that is most appropriate for a given location. It also evaluates placement and performance characteristics such as fatigue, thermal cracking, etc. to develop a durable mix and provide the desired levels of safety and other factors inherent in the design specifications. In short, the permit applicants can choose a pavement mix that is appropriate for

¹ The most recent versions of these documents are the following: Road and Bridge Standards (English measurements), effective February 2001, Location and Design Division; Road and Bridge Standards (metric measurements), effective January 1997, Location and Design Division; Pavement Design Guide for Subdivision and Secondary Roads in Virginia, effective September 2000, Materials Division; Road Design Manual (English and metric measurements), effective July 1998, Location and Design Division; Road and Bridge Specifications (English measurements), effective 2002, Construction Division; Road Bridge Specifications (metric measurements), effective 1997, Construction Division; Chief Engineer’s memorandum entitled, “Guidance for Planting in the Clear Zone and Landscaping for VDOT Projects” dated October 31, 2000, Environmental Division.

the location taking into factors such as traffic volume, percentage of trucks, climate, and geography. According to the agency, the superpave mix design resulted from a five-year research project sponsored by the Federal Highway Administration. The study evaluated asphalt performance to determine if improvements in traditional methods could be developed.

The proposed change to allow the use of superpave mix on highway entrances is expected to benefit permit applicants. The applicants will be afforded an option to use the superpave mix design in addition to current designs available to them. They are likely to opt to use this option only if it produces net benefits. It costs about \$1,250 to build a typical private entrance using regular pavement while it costs about \$1,350 if the superpave mix is used.³ Cost savings from increased durability such as savings in premature repair or replacement costs over the life of the entrance are expected to outweigh the higher costs of superpave to some degree. Thus, if the use of superpave mix is cost efficient for applicants, contractors are likely to inform their customers, and the customers are likely to take advantage of this new option. Although the increased flexibility in choosing pavement design for applicants has the potential to increase monitoring costs to ensure that the performance standards for pavement are met, the department believes that current monitoring practices will be sufficient to ensure compliance with the required standards. The size of aggregate benefits from being able to utilize the superpave option depends on the total number of cases. The department has ongoing efforts to publicize the superpave concept to municipalities, contractors, developers and other interested parties, but does not know in how many cases the superpave option may be selected.

Most of the other proposed changes are related to the regulatory language and include updating the reference to the Code of Virginia to take into account most recent code changes, adding a new definition, revision of two definitions, and adding explanations, descriptions, or new terms to the current language in a number of places to improve the clarity, and providing additional information on where to obtain electronic and print copies of referenced documents. Similar to most referenced materials, the department indicates that most of these changes will not affect the way these regulations are currently implemented, but mainly clarify the rules contained

² Currently, metric sight distances are referenced in the 1994 edition of A Policy on Geometric Design of Highways and Streets, published by the American Association of State Highway and Transportation Officials.

³ Source: Virginia Department of Transportation

in them. Thus, no significant economic effects are expected from most of the changes other than reducing the chance for potential confusions.

However, one of the changes under this category may be significant. The change is related to a recent disagreement between the department and an entrance permit applicant. The disagreement was over the discretion of the engineer representing the department, when based on sound engineering principles, to modify the details of the generic private subdivision road/street entrance design included in the regulations. The engineer's discretion is noted in the other fourteen design illustrations in the regulation, but not in the private subdivision design illustration. The applicant argued before the court that the engineer did not have the discretion to change the size of the design specified in the regulations because the engineer's discretion was not noted. The court determined that the engineer had authority to amend the details shown only for those illustrations explicitly bearing the provision. Since the proposed change will add a provision to indicate that the engineer can modify the design, the chances of having to approve unsafe sight distance and road geometry configurations which may lead to increased likelihood of crashes, injuries, and deaths will likely be lower. This proposed change is also likely to benefit the department by reducing the chances of having a dispute with an entry permit applicant and consequently reducing potential litigation costs. The entrance applicants on the other hand may incur some additional costs because of required modifications to the designs, or because they may not be able to obtain a permit if site conditions does not allow required modifications for safe entrances.

Businesses and Entities Affected

The proposed regulations apply to permit applicants who wish to construct a connection to a public highway. The permit applicants may include residential and commercial developers, business owners constructing or modifying their facilities, private homeowners installing driveways, and municipalities. The number of permits issued is positively related to the level of economic activity. For example, during economic expansions more homes and commercial/industrial facilities are built and more permit applications are received to connect them to the state highways. Although variability is inherent in the number of affected entities due to the level of economic activity, the department issued 3,025 highway entrance permits in the last year, which is the best available estimate at this time for the number of affected entities.

Localities Particularly Affected

The proposed regulations apply to all localities throughout Virginia.

Projected Impact on Employment

No significant impact on employment is expected.

Effects on the Use and Value of Private Property

The proposed option to use superpave mix has the potential to positively contribute relatively small amounts to the value of private homes and commercial/industrial facilities if durability of the connection to state highways is improved. Increase in value should approximately reflect the expected cost savings from reduced repair and maintenance over the life of the pavement minus additional construction costs.

Similarly, modified designs by engineers may improve the safety of an entrance to a state highway. In these cases, the value of the affected property is expected to reflect the discounted value of the reduced likelihood of accidents the owner may involve less the additional costs that must be incurred to comply with the approved design.